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(54) Device for an improved fast fastening of an airbag module on the steering wheel

(57) Improved fast fastening arrangement of an airbag module with a steering wheel, consisting of two projections situated towards the interior of a steering wheel, and positioned with the inclined plane of the sheet, acting as a closing device of the container of the airbag, and having an access from the exterior to overcome the resistance of an elastic steel wire (4) with the cooperation of a tool and to deblock the fastening, and allow the airbag module to be extracted, the elastic steel wire (4) forming the own coupling arrangement, having a frame (2) with opposed housings (3), confronting two projections (1), there being, between the housing (3) and the projections (1), an elastic steel wire (4), constituting the spring.

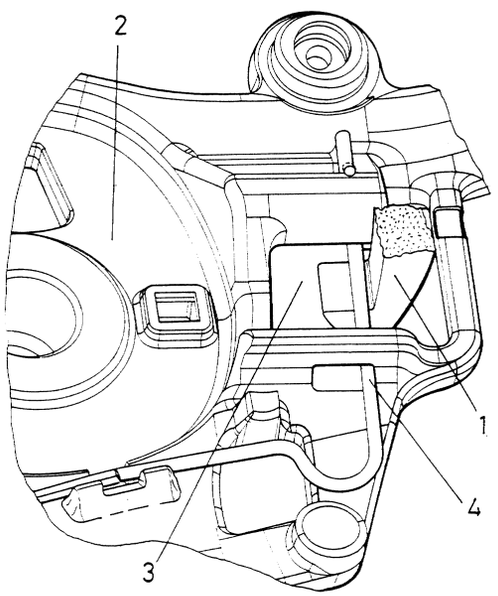

FIG.1

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Description

BACKGROUND OF THE INVENTION

[0001] The present specification relates to an application for a Model of Utility, referring to a device for an improved fast fastening of an airbag module on the steering wheel, the purpose of which is to achieve a fastening of the airbag module on the steering wheel frame, by using a direct-acting spring, and positioning the airbag module in a floating way with regard to the frame.

[0002] The incorporation of the spring in question allows - the steering wheel insert to perform a simplified deblocking with the cooperation of a tool, such as a screwdriver, for example, through an acting access over which - the tool is inserted for performing the deblocking.

FIELD OF APPLICATION

[0003] The invention will find application in the industry dedicated to the manufacture of motorcars; more specifically, in the industry dedicated to the manufacture of steering wheels, airbag modules, and related elements.

PRIOR ART

[0004] The applicant is aware of the existence at present of the use of several and varied manners of joining an airbag module to the steering wheel.

[0005] Nevertheless, the applicant is not aware of the existence at present of a union method between an airbag module and a steering wheel by using springs housed in a frame joined on to the airbag module, the function of which is to retain an insert emerging from the steering wheel surface, except the existence of the Spanish Model of Utility timely lodged in the name of the applicant and under the number U9801337.

[0006] However, it would be desirable to rely on an invention reducing to the utmost the number of parts used, and, still allowing coupling and uncoupling operations to be performed in a fast and sure way.

SUMMARY OF THE INVENTION

[0007] The improved fast fastening arrangement of an airbag module on a steering wheel as proposed by the invention, is configured per se like a fast clipping in which the airbag module remains floating due to the dimensional configuration, said clipping coming only into contact when the airbag device is released, retaining said module so that problems derived from vibrations are avoided.

[0008] In a most specific way, the invention presents two projections emerging towards the interior of the steering wheel to the inclined plane on the plate acting as a closing device of the airbag container, and on the frame two opposed housings are arranged, which are confronted to said projections, and between the housings there is located an elastic steel wire constituting the own arrangement.

[0009] The assembly is performed by exerting pressure on the airbag module, for which, the elastic steel wire opens towards the interior, the module remaining floating owing to its dimensions, and coming into contact and exerting retention and opposition to be taking apart, operation only performed when the airbag release is operating.

[0010] As above mentioned, the invention presents an access from the exterior through which, and using a tool, such as a screwdriver or similar tool, the resistance of a spring configured as an elastic steel wire is overcame, allowing the clipping to be deblocked, and consequently the module can be taking out.

DESCRIPTION OF THE DRAWINGS

[0011] In order to complement this description and aid to a better understanding of the characteristics of the invention, the appending sheet of drawings, which is a part of this specification, shows, by way of illustrative and non-limitative example, the following:

[0012] Figure 1 shows a detail of the invention, relative tp an improved fast fastening of an airbag module on a steering wheel.

DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

[0013] This figure shows what the improved fast fastening arrangement of an airbag module on a steering wheel of the invention, is constituted starting from two - projections (1) arranged towards the interior of a steering wheel with the inclined plane in the plate acting as a closing device of the airbag container, while the frame (2) has two opposed housings (3) confronted to said projections (1), and between the opposed housings (3), there is an elastic steel wire (4) constituting the own clipping.

[0014] The assembly is performed by exerting pressure on the airbag module, so the wire (4) opens towards the interior, the module remaining floating owing to its dimensions and coming into contact and exerting retention and opposition to be taken apart only when the airbag release operates.

[0015] An access from the exterior has been provided, and through which and by means of a screwdriver or similar tool, the resistance ofthe spring configured as an elastic steel wire (4), is overcame, allowing the clipping to be deblocked and, therefore, the module extraction.

[0016] It is not considered necessary to extend this description for any expert in the art to understand the scope of the invention and the advantages derived from it.

[0017] The materials, shape, size and arrangement of

its components will be open to variation, provided that it does not imply any alteration to the essence of the invention.

[0018] The terms under which this specification has been described should be always taken in an ample and non-limitative sense.

Claims

1. Improved fast fastening device of an airbag module on a steering wheel, characterized in that it is constituted starting from two projections (1) located towards the interior of a steering wheel and positioned with the inclined plane of the plate, which acts as a closing device of the airbag container, presenting an access from the exterior, through which, and with the cooperation of a tool, the resistance of an elastic - steel wire is overcame (4), allowing the fastening to be deblocked and the extraction of the airbag module to be performed, the elastic steel wire (4) constituting a coupling arrangement in the strict sense, emerging towards the interior and coming into contact and opposition to be taken apart when the airbag module releases, a frame (2) fitted with two housings opposed (3) faced to both projections (1) being provided, and there being, between the opposed housings (3) and the projections (1), an elastic steel wire (4).

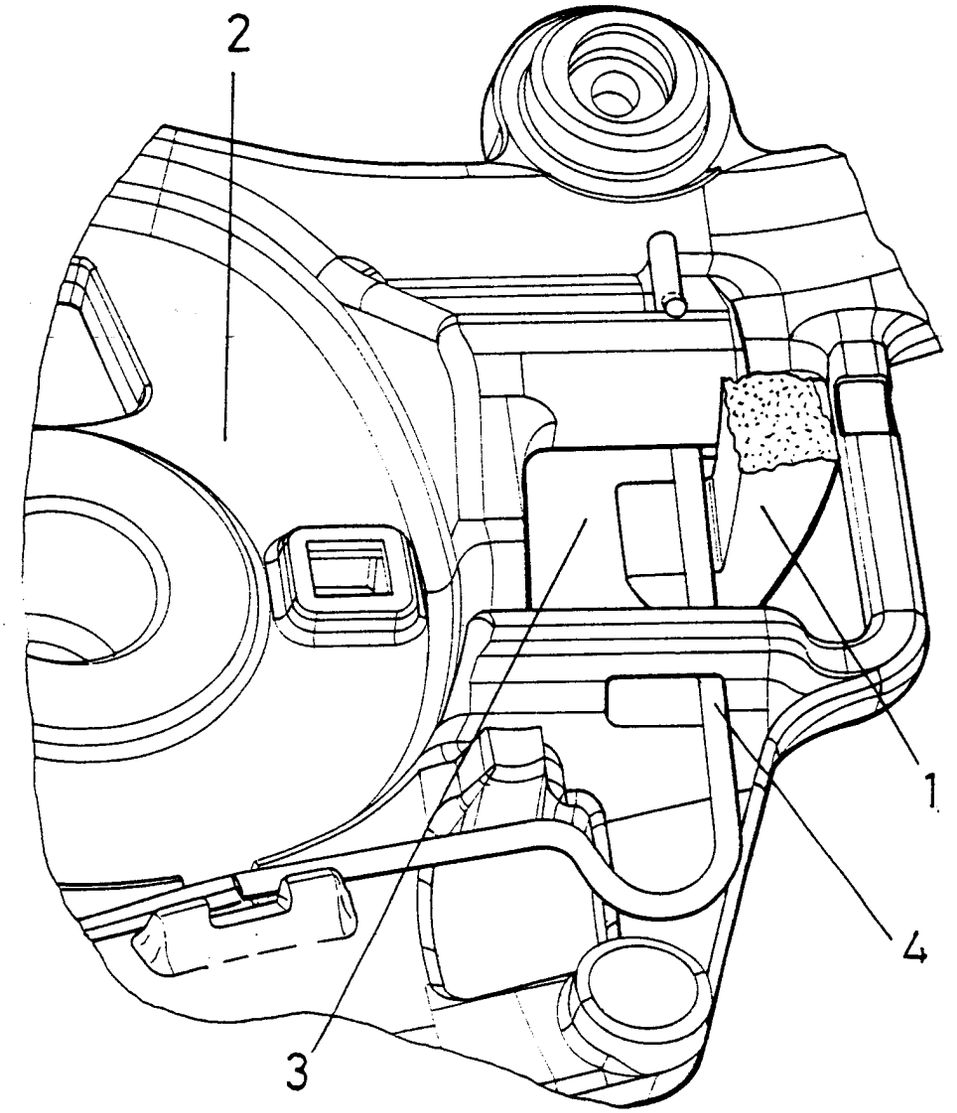

FIG.1

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EUROPEAN SEARCH REPORT

Application Number
EP 00 50 0248

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	DE 296 02 630 U (TRW REPA GMBH) 13 June 1996 (1996-06-13) * figures 1-4 * * page 2, paragraph 1 * * page 4, line 30 - page 8, line 16 * ---	1	B60R21/20
A	DE 195 03 816 A (PETRI AG) 8 August 1996 (1996-08-08) * figures 1-5 * * claim 1 * * column 2, line 39 - line 50 * ---	1	
A	US 5 087 069 A (CORBETT THOMAS J ET AL) 11 February 1992 (1992-02-11) * figures * * paragraph '0001! * * column 2, line 33 - column 4, line 21 * ---	1	
A	US 5 508 481 A (WILLIAMS DUANE D ET AL) 16 April 1996 (1996-04-16) * figures * * column 2, line 10 - column 4, line 25 * ---	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B60R
A	"SNAP-IN INFLATABLE RESTRAINT MODULE MOUNTING SYSTEM FOR STEERING WHEELS" RESEARCH DISCLOSURE,GB,INDUSTRIAL OPPORTUNITIES LTD. HAVANT, no. 403, 1 November 1997 (1997-11-01), page 825 XP000726737 ISSN: 0374-4353 * the whole document * -----	1	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	30 January 2001	D'sylva, C

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 00 50 0248

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82